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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Matthew B. Dubin

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EXAMINER

KIM, RICHARD H

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/746,739	<b>Applicant(s)</b> DUBIN ET AL.	
	<b>Examiner</b> Richard H. Kim	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 October 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16,20-30,34-37 and 40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16,20-30,34-37 and 40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2-4, 6-10, 12-14, 20-23, 27-29, 34-37 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steffensmeier (US 6,540,363) in view of Schwarzenberger (US 6,128,054).

As to claims 1, 20-21, 34-35 and 37, Steffensmeier discloses a plurality of display devices, wherein each display device is subdivided into a plurality of sections (12a, 10b, 10c, 14a, 14b, 14c), with each section separately configured to display a sectional image (Fig. 1, ref. 30a, 30b, 30c), each display device including a dead-band region between each pair of adjacent sections (area between display devices 30a, 30b, 30c); a screen (S); and a plurality of lens assemblies (14a, 14b, 14c), wherein each lens assemblies is optically coupled to a corresponding one of the second of each of the display devices to project the sectional image display on that section onto the screen, and the plurality of lens assemblies are configured to merge the projected images to form a single tiled image (col. 1, lines 45-50), at least one lens assembly is configured to provide magnification having a magnitude greater than one such that the respective projected section image on the screen is larger than the corresponding section image on the display device (Fig. 1) wherein the lens assemblies provide magnification to merge adjacent projected section imaged together to eliminate the dead-band regions from the tiled image (30a, 30b, 30c).

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However, the reference does not disclose at least one lens assembly being configured to provide a shift so that respective projected sectional image on the screen is shifted sideways with respect to an axis normal to the corresponding section image.

Schwarzenberger in disclosing an apparatus for displaying an image disclose that the arrays shift the given parts of the display area to form a viewable image of the whole display area in which gaps between the neighboring parts of the image are less visible (abstract).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the specific configuration disclosed by Schwarzenberger to the device disclosed by Steffsmeier so that the gaps between the neighboring parts of the image are less visible than the gaps between the neighboring parts of the display area (abstract).

Referring to claims 2-4, Steffensmeier discloses that each display device consists of liquid crystal display modules (20a, b, c) florescent display tube (17), and rear projection displays.

Referring to claims 6-10, Steffensmeier discloses the screen comprises a rear projection screen (S) having a rear side and a front side, and wherein the sectional (portions) images are projected on the rear side (col. 2, lines 22-37) and the tiled image (whole) is viewable from the front side (Fig. 1), each of the lens assemblies (14) includes a projection lens (21,22) for projecting the respective partial image onto the screen and they appear symmetric (Fig. 1). The lens assemblies (14) may include one or more individual lenses, hence a doublet or triplet (col. 3, lines 23-25).

As to claims 12-14, Steffensmeier discloses that each lens assembly (14) also includes a bi-power lens (col. 3, lines 25) for focusing the respective sectional image onto the respective

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projection lens (14) and the projection lens of each lens assembly has an optical axis and the field lens of each lens assembly has the same optical axis (Fig. 1) (draw as a line through the center). In Fig. 3, Steffensmeier shows the optical axis of the projection lens (14c) is oriented horizontal and the optical axis of the field lens is oriented in the vertical direction thus making the two axes different.

As to claims 22-23, and 27, Steffensmeier discloses a plurality of backlight (17), each backlight assembly optically coupled to one of the display devices (Fig. 2), and each backlight channel is configured to provide a separate backlight for on the sections of the corresponding display device (Fig. 2).

As to claims 28-29 and 36, since a device cannot be manufactured without a method and since the method claims as recited do not contain any specific sequence of steps or any unique combination of steps; the method of generating a tiled display is inherent in the disclosure of Steffensmeier and Schwarzenberger.

As to claim 40, Steffensmeier discloses means for distortion control (col. 2, lines 6-21).

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5, 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steffensmeier and Schwarzenberger in view of Itoh et al. (US 6,337,724).

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Steffensmeier do not disclose that the display device is a CRT display nor does he disclose the backlight channel includes a fiber bundle.

Itoh in disclosing a conventional art of a tiled display apparatus (500) discloses CRT display (Fig. 28), the backlight assemblies (50) includes condenser (31) for concentrating light received from a light source onto the section and each backlight channel includes a fiber bundle (52).

The examiner has considered the Applicant's argument regarding Itoh, but in view of these specific claims, these arguments are moot because the use of fiber bundles to couple light in the backlight assembly is quite common in these systems.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the specific configuration as disclosed by Itoh to the device of Steffensmeier to provide an image display system wherein a large-scale image can be generated and thin enough to be utilized in a room at a house which is light weight and cost effective (col. 3, lines 25-43).

3. Claims 11, 15-16 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steffensmeier and Schwarzenberger in view of Sheridan (US 5,777,782).

Steffensmeier does not disclose the use of ball lenses or plastic lenses. Sheridan on the other hand, in disclosing a display system discloses the use of plastic ball type lenses (21) and an array of these lenses (Fig. 2).

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Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the plastic ball lenses for lightweight, flexible display (col. 1, lines 60-64).

4. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Steffensmeier and Schwarzenberger in view of Zimmerman et al. (US 5,598,281).

Steffensmeier does not disclose tapered light pipes for communicating light from a light source onto the section.

Zimmerman discloses such tapered optical elements (30) for a backlight assembly used in display devices.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the tapered optical elements (pipes) as disclosed by Zimmerman for an improved light/optical arrangement which provides an efficient, bright and uniform image of high contrast and is capable of being viewed over a wide viewing angle, while maintaining a narrow profile (col. 1, lines 56-60).

#### ***Response to Arguments***

5. Applicant's arguments filed 10/27/05 have been fully considered but they are not persuasive.

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6. In response to Applicant's argument that neither cited references disclose the amended claimed limitations, it is the position of the examiner that Steffensmeier in combination with Schwarzenberger disclose the claimed limitations according to the above rejection.

### *Conclusion*

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H. Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.




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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard H Kim  
Examiner  
Art Unit 2871

RHK

  
ANDREW SCHECHTER  
PRIMARY EXAMINER